EPA Appendix F - Risk Assessment # 27

Comment:

Sections 8, 9 and 10: While Section 4 of this risk assessment describes the methodology for the long-term risk assessments presented in Sections 5, 6, and 7, there is no corresponding section describing the methodology for the short-term risk assessments in Sections 8, 9, and 10.

In addition, Section 2.11 of the SFS work plan discusses the use of Microshield for calculating exposure rates for short-term receptors; however, Microshield is not discussed or referenced anywhere in this Appendix. A section discussing short-term risk assessment methodology and incorporating the use of Microshield must be included.

Discussion:

In the previous version of this Appendix, general information about human health evaluation was repeated in the short-term risk assessments of each alternative. Appendix F is being revised and general information pertaining to short-term human health evaluations has been consolidated into a new section. This section (new Section 8) precedes the remedy-specific sections (now designated Sections 9 – 11).

Microshield was originally included in the Work Plan to evaluate external doses to remediation workers because it allows evaluation of non-standard geometries. The only RIM/receptor geometries currently selected for detailed evaluation in Appendix F are standard planar geometries, which are ideally suited for RESRAD simulations. (RESRAD was also included in the Work Plan). In addition, Microshield does not evaluate doses from inhalation or inadvertent ingestion of soil. These must be included when calculating the Total Effective Dose Equivalents (TEDEs) required for comparison to occupational dose standards. RESRAD is capable of calculating external doses from planar geometries and internal doses to receptors from inhalation and ingestion. It was used in these short-term risk assessments (with EPA exposure parameter values) to calculate the TEDE to remediation workers during construction. If Microshield were used to calculate doses from external radiation, RESRAD or an equivalent method would still have to be used to calculate the internal doses from inhalation and ingestion. Finally, using RESRAD to calculate worker doses also provided consistency with the long-term risk assessments and reduced the number of models used in these evaluations.

Proposed Text Change:

The proposed text changes have been incorporated into the current draft of Appendix F. Sections 9-12 of Appendix F are being revised as updated information on schedules, material handling processes and transportation requirements become available.